F.C.C. FORM NO. 352
REV. JANUARY, 1951

UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
STANDARD BROADCAST STATION LICENSE

File No. BL-6294
Call Letters WTSN
Official No. 3425

Subject to the provisions of the Communications Act of 1934, subsequent Acts, and Treaties, and Commission Rules made thereunder, and further subject to conditions set forth in this license, 1/ the LICENSEE

WTSN, INC.

is hereby authorized to use and operate the radio transmitting apparatus hereinafter described for the purpose of broadcasting for the term beginning April 1, 1957, and ending April 1, 1960 (3 a.m., Eastern Standard Time)

The licensee shall use and operate said apparatus only in accordance with the following terms:

1. On a frequency of 1270 kc.
2. With 5 kilo watts power xxx directional antenna nighttime { common point current, 10.2 amperes; common point resistance, 48.1 ohms
   and 5 kilo watts power xxx directional antenna daytime { common point current, 10.2 amperes; common point resistance, 48.1 ohms
3. During the following period or periods of time: Unlimited time.
   Average hours of local sunrise and sunset:
   Jan. 7:15 am to 4:30 pm; Feb. 6:45 am to 5:15 pm;
   Mar. 6:00 am to 5:45 pm; Apr. 5:00 am to 6:30 pm;
   May 4:15 am to 7:00 pm; June 4:00 am to 7:30 pm;
   July 4:15 am to 7:15 pm; Aug. 4:45 am to 6:45 pm;
   Sept. 5:15 am to 6:00 pm; Oct. 6:00 am to 5:00 pm;
   Nov. 6:30 am to 4:15 pm; Dec. 7:15 am to 4:15 pm;
   Eastern Standard Time.
4. With the station located at:
   Dover, New Hampshire
5. With the main studio located at:
   "Back Road", approximately 1.5 miles southeast of Dover, New Hampshire

The apparatus herein authorized to be used and operated is located at:
"Back Road", approximately 1.5 miles southeast of Dover, New Hampshire — North Lat. 43° 11' 01" ; West Long. 70° 51' 14"

and is described as follows:

COLLINS RADIO CO., Type 21-E, Broadcasting Transmitter.

Obstruction marking specifications in accordance with paragraphs 1, 3, 11 and 21 of FCC Form 715 attached.

The Commission reserves the right during said license period of terminating this license or making effective any changes or modification of this license which may be necessary to comply with any decision of the Commission rendered as a result of any hearing held under the rules of the Commission prior to the commencement of this license period or any decision rendered as a result of any such hearing which has been designated but not held, prior to the commencement of this license period.

This license is issued on the licensee's representation that the statements contained in licensee's application are true and that the undertakings therein contained so far as they are consistent herewith, will be carried out in good faith. The licensee shall, during the term of this license, render such broadcasting service as will serve public interest, convenience, or necessity to the full extent of the privileges herein conferred.

This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequency designated in the license beyond the term hereof, nor in any other manner than authorized herein. Neither the license nor the right granted hereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934. This license is subject to the right of use or control by the Government of the United States conferred by section 606 of the Communications Act of 1934.

1/ This license consists of this page and pages 2, 3 & 4

Dated this 1st day of April, 1957.

FEDERAL COMMUNICATIONS COMMISSION,

Mary Jean Morris
Secretary

mjb

F.C.C. - Washington, D. C.

FCC Form 353-A
October 1954

File No. BL-6294 Call Letters WTSN Date 4-1-57

1. DESCRIPTION OF DIRECTIONAL ANTENNA SYSTEM DA- 2

No. and Type of Elements: Four uniform cross-section, guyed, series-excited, vertical steel radiators.

Height above Insulators: 200' (93°)

Overall Height: 205'

Spacing and Orientation: Towers arranged in the form of a parallelogram with the long sides spaced 516.24' (240°) on a line bearing 166.5° true and the short sides spaced 258.12' (120°) on a line bearing 113.5° true.

Non-Directional Antenna: None used.

Ground System consists of 120 - 200' to 350' equally spaced, buried copper radials about the base of each tower. Radials are shortened and bonded to common transverse copper strap along intersections between towers.

2. THEORETICAL SPECIFICATIONS

		NW Tower(1)	SW Tower(2)	SE Tower(3)	NE Tower(4)
Phasing:	Night:	0°	-132°	89°	-139°
	Day:	90°	-90°	-	-119.5°
Field Ratio:	Night:	1.0	.909	.795	.875
	Day:	1.0	1.0	-	3.4

3. OPERATING SPECIFICATIONS

Phase Indication:*	Night:	129°	-2°	-142.5°	0°
	Day:	-166°	14°	-	0°
Antenna Base Current Ratio:	Night:	1.0	1.04	.904	.774
	Day:	1.0	.889	-	2.86
Phase Monitor Sample Current Ratio:	Night:	1.0	1.04	.974	.513
	Day:	1.0	.883	-	1.82

*As indicated by Clarke 106E phase monitor.

Phase indications and antenna base currents shall be read and entered in the operating log at least one each hour. Phase monitor sample currents may be read and logged in lieu of base currents provided base currents are read and logged at least once daily for each pattern.

Field measuring equipment shall be available at all times, and the field intensity at each of the monitoring points shall be measured at least once every seven days and an appropriate record kept of all measurements so made.

DESCRIPTION OF AND FIELD INTENSITY AT MONITORING POINTS:

Point #1, direction of 3.5° true North. From transmitter proceed west and north on Back Road to intersection with Henry Law Avenue. Proceed west on Henry Law Avenue to Central Square (downtown Dover). Proceed east on Washington Street to intersection with Main Street. Proceed north on Main Street one block to intersection with Portland Street. Follow Portland Street one block north to intersection with Cocheco Street. Follow Cocheco Street approximately 0.7 mile to junction with Eliot Bridge Road (Gulf Road). Proceed east on Eliot Bridge Road approximately 0.3 mile to monitor point. The monitor point is in the center of the road opposite a white house. This point is 1.12 miles from the antenna. The field intensity measured at this point should not exceed 36.6 mv/m, NIGHT.

Point #2, direction of 38° true North. From transmitter proceed west and north on Back Road to intersection with Henry Law Avenue. Proceed west on Henry Law Avenue to Central Square (downtown Dover). Proceed east on Washington Street to intersection with Main Street. Proceed north on Main Street one block to intersection with Portland Street. Follow Portland Street one block north to intersection with Cocheco Street. Follow Cocheco Street approximately 0.7 mile to junction with Eliot Bridge Road (Gulf Road). Continue east on Eliot Bridge Road approximately one mile to sharp left turn in road. At this point the old roadway may be seen to the north joining the present road. The monitor point is in the center of the road. The point is 1.12 miles from the antenna. The field intensity measured at this point should not exceed 275 mv/m, NIGHT; 133 mv/m, DAY.

Point #3, direction of 64.7° true North. From transmitter proceed west and north on Back Road to intersection with Henry Law Avenue. Proceed west on Henry Law Avenue to Central Square (downtown Dover). Proceed east on Washington Street to intersection with Main Street. Proceed north on Main Street one block to intersection with Portland Street. Follow Portland Street one block north to intersection with Cocheco Street. Follow Cocheco Street approximately 0.7 mile to junction with Eliot Bridge Road (Gulf Road). Follow Eliot Bridge Road approximately 1.9 miles to New Hampshire-Maine state line (Salmon Falls River). Continue on this road (Maine Highway 101) approximately 1.2 miles to intersection with new Maine Highway 103. Turn left (north) and proceed approximately 2.1 miles to monitor point. The monitor point is on the right-hand side of the road just at the north edge of a cut for the highway right-of-way. The point is 3.4 miles from the antenna. The field intensity measured at this point should not exceed 3.6 mv/m, NIGHT.

DESCRIPTION OF AND FIELD INTENSITY AT MONITORING POINTS: (Continued)

Point #4, direction of 176° true North. From the transmitter proceed west on Back Road to junction with Middle Road. Continue two blocks west on Middle Road and Court Street to corner of Watson Street. Turn left (south) and follow Watson Street to junction with Central Avenue (New Hampshire Highway 16). Turn left (south) and follow Highway 16 approximately 1.5 miles to southern boundary of new St. Mary's Cemetery. Just south of the cemetery a side road (unnamed) branches to the right of the highway. Follow the side road approximately 0.15 mile to junction with Cushing Road. Turn right and follow Cushing Road approximately one mile to monitor point. The monitor point is in the center of the road over a high fill where the road crosses a small creek. The point is 1.72 miles from the antenna. The field intensity measured at this point should not exceed 57 mv/m, DAY.

Point #5, direction of 230.5° true North. From the transmitter proceed west on Back Road to junction with Middle Road. Continue two blocks west on Middle Road and Court Street to corner of Watson Street. Turn left (south) and follow Watson Street to junction with Central Avenue (New Hampshire Highway 108). Proceed southwest on New Hampshire Highway 108 to the Dover-Madbury town line (approximately 1.9 miles). Continue approximately 0.1 mile on Highway 108 to intersection with Freshet Road. Turn left (southeast into Freshet Road and proceed 0.2 mile to Colprit's Nursery. The monitor point is on the driveway in front of the greenhouse. The point is 2.65 miles from the antenna. The field intensity measured at this point should not exceed 18.5 mv/m, NIGHT; 40 mv/m, DAY.

Point #6, direction of 268.5° true North. (This monitor point is on a road now under construction; this description provides instructions for reaching the point at the present time). From the transmitter proceed west on Back Road to junction with Middle Road. Continue two blocks west on Middle Road and Court Street to corner of Watson Street. Turn left (south) and follow Watson Street to junction with Central Avenue (New Hampshire Highway 108). Proceed southwest on Highway 108 approximately 1.3 miles to junction with Bellamy Road. Turn right (north) on Bellamy Road and proceed approximately 0.8 mile to junction with Cataract Avenue. Turn right (east) and proceed along Cataract Avenue (under construction July 1956) 0.3 mile to monitor point. The monitor point is on the south side of the road just opposite a large tree. The distance from the antenna is 1.5 miles. The field intensity measured at this point should not exceed 20 mv/m, NIGHT.

Point #7, direction of 310° true North. From transmitter proceed west and north on Back Road to intersection with Henry Law Avenue. Proceed west on Henry Law Avenue to Central Square (downtown Dover). Turn right and follow Washington Street to Main Street, Main Street to Franklin Square and Central Avenue to First Street. Turn right (west) and proceed one-half block to County Courthouse. The monitor point is in the parking lot in front of the Courthouse. The point is 1.5 miles from the antenna. The field intensity measured at this point should not exceed 179 mv/m, NIGHT.

FCC Form 715
May 1953

OBSTRUCTION MARKING
ANTENNA TOWER(S) OR SUPPORTING STRUCTURE(S)

It is to be expressly understood that the issuance of these specifications is in no way to be considered as precluding additional or modified marking or lighting as may hereafter be required under the provisions of Section 303(q) of the Communications Act of 1934, as amended.

1 Antenna structures shall be painted throughout their height with alternate bands of aviation surface orange and white, terminating with aviation surface orange bands at both top and bottom. The width of the bands shall be approximately one-seventh the height of the structure, provided however, that the bands shall not be more than 40 feet nor less than 1-1/2 feet in width. All towers shall be cleaned or repainted as often as necessary to maintain good visibility.

2 There shall be installed at the top of the tower at least two 100- or 111-watt lamps (#100 A21/TS or # 111 A21/TS, respectively) enclosed in aviation red obstruction light globes. The two lights shall burn simultaneously from sunset to sunrise and shall be positioned so as to insure unobstructed visibility of at least one of the lights from aircraft at any angle of approach. A light sensitive control device or an astronomic dial clock and time switch may be used to control the obstruction lighting in lieu of manual control. When a light sensitive device is used it should be adjusted so that the lights will be turned on at a north sky light intensity level of about thirty-five foot candles and turned off at a north sky light intensity level of about fifty-eight foot candles.

3 There shall be installed at the top of the structure one 300 m/m electric code beacon equipped with two 500- or 620-watt lamps (PS-40, Code Beacon type), both lamps to burn simultaneously, and equipped with aviation red color filters. Where a rod or other construction of not more than 20 feet in height and incapable of supporting this beacon is mounted on top of the structure and it is determined that this additional construction does not permit unobstructed visibility of the code beacon from aircraft at any angle of approach, there shall be installed two such beacons positioned so as to insure unobstructed visibility of at least one of the beacons from aircraft at any angle of approach. The beacons shall be equipped with a flashing mechanism producing not more than 40 flashes per minute nor less than 12 flashes per minute with a period of darkness equal to one-half of the luminous period.

4 At approximately one-half of the over-all height of the tower one similar flashing 300 m/m electric code beacon shall be installed in such position within the tower proper that the structural members will not impair the visibility of this beacon from aircraft at any angle of approach. In the event this beacon cannot be installed in a manner to insure unobstructed visibility of it from aircraft at any angle of approach, there shall be installed two such beacons. Each beacon shall be mounted on the outside of diagonally opposite corners or opposite sides of the tower at the prescribed height.

5 At approximately two-fifths of the over-all height of the tower one similar flashing 300 m/m electric code beacon shall be installed in such position within the tower proper that the structural members will not impair the visibility of this beacon from aircraft at any angle of approach. In the event this beacon cannot be installed in a manner to insure unobstructed visibility of it from aircraft at any angle of approach, there shall be installed two such beacons. Each beacon shall be mounted on the outside of diagonally opposite corners or opposite sides of the tower at the prescribed height.

6 On levels at approximately two thirds and one third of the over-all height of the tower one similar flashing 300 m/m electric code beacon shall be installed in such position within the tower proper that the structural members will not impair the visibility of this beacon from aircraft at any angle of approach. In the event these beacons cannot be installed in a manner to insure unobstructed visibility of it from aircraft at any angle of approach, there shall be installed two such beacons. Each beacon shall be mounted on the outside of diagonally opposite corners or opposite sides of the tower at the prescribed height.

7 On levels at approximately four-sevenths and two-sevenths of the overall height of the tower one similar flashing 300 m/m electric code beacon shall be installed in such position within the tower proper that the structural members will not impair the visibility of this beacon from aircraft at any angle of approach. In the event these beacons cannot be installed in a manner to insure unobstructed visibility of the beacons from aircraft at any angle of approach, there shall be installed two such beacons, at each level. Each beacon shall be mounted on the outside of diagonally opposite corners or opposite sides of the tower at the prescribed height.

8. On levels at approximately three-fourths, one-half and one-fourth of the over-all height of the tower one similar flashing 300 m/m electric code beacon shall be installed in such position within the tower proper that the structural members will not impair the visibility of this beacon from aircraft at any angle of approach. In the event these beacons cannot be installed in a manner to insure unobstructed visibility of the beacons from aircraft at any angle of approach, there shall be installed two such beacons, at each level. Each beacon shall be mounted on the outside of diagonally opposite corners or opposite sides of the tower at the prescribed height.

9. On levels at approximately two-thirds, four-ninths and two-ninths of the over-all height of the tower one similar flashing 300 m/m electric code beacon shall be installed in such position within the tower proper that the structural members will not impair the visibility of this beacon from aircraft at any angle of approach. In the event these beacons cannot be installed in a manner to insure unobstructed visibility of the beacons from aircraft at any angle of approach, there shall be installed two such beacons at each level. Each beacon shall be mounted on the outside of diagonally opposite corners or opposite sides of the tower at the prescribed height.

10. On levels at approximately four-fifths, three-fifths, two-fifths, and one-fifth of the over-all height of the tower one similar flashing 300 m/m electric code beacon shall be installed in such position within the tower proper that the structural members will not impair the visibility of this beacon from aircraft at any angle of approach. In the event these beacons cannot be installed in a manner to insure unobstructed visibility of the beacons from aircraft at any angle of approach, there shall be installed two such beacons at each level. Each beacon shall be mounted on the outside of diagonally opposite corners or opposite sides of the tower at the prescribed heights.

11. At the approximate mid point of the over-all height of the tower there shall be installed at least two 100- or 111-watt lamps (#100 A21/TS or # 111 A21/TS, respectively) enclosed in aviation red obstruction light globes. Each light shall be mounted so as to insure unobstructed visibility of at least one light at each level from aircraft at any angle of approach.

12. On levels at approximately two-thirds and one-third of the over-all height of the tower, there shall be installed at least two 100- or 111-watt lamps (#100 A21/TS or #111 A21/TS, respectively) enclosed in aviation red obstruction light globes. Each light shall be mounted so as to insure unobstructed visibility of at least one light at each level from aircraft at any angle of approach.

13. On levels at approximately three-fourths and one-fourth of the over-all height of the tower, at least one 100- or 111-watt lamp (#100 A21/TS or #111 A21/TS, respectively) enclosed in an aviation red obstruction light globe shall be installed on each outside corner of the tower at each level.

14. On levels at approximately four-fifths, three-fifths and one-fifth of the over-all height of the tower, at least one 100- or 111-watt lamp (#100 A21/TS or # 111 A21/TS, respectively) enclosed in an aviation red obstruction light globe shall be installed on each outside corner of the tower at each level.

15. On levels at approximately five-sixths, one-half, and one-sixth of the over-all height of the tower, at least one 100- or 111-watt lamp (#100 A21/TS or #111 A21/TS, respectively) enclosed in an aviation red obstruction light globe shall be installed on each outside corner of the tower at each level.

16. On levels at approximately six-sevenths, five-sevenths, three-sevenths and one-seventh of the over-all height of the tower at least one 100- or 111-watt lamp (#100 A21/TS or # 111 A21/TS, respectively) enclosed in an aviation red obstruction light globe shall be installed on each outside corner of the structure.

17. On levels at approximately seven-eighths, five-eighths, three-eighths, and one-eighth of the over-all height of the tower, at least one 100- or 111-watt lamp (#100 A21/TS or # 111 A21/TS, respectively) enclosed in an aviation red obstruction light globe shall be installed on each outside corner of the structure.

18. On levels at approximately eight-ninths, seven-ninths, five-ninths, one-third and one-ninth of the over-all height of the tower, at least one 100- or 111-watt lamp (#100 A21/TS or # 111 A21/TS, respectively) enclosed in an aviation red obstruction light globe shall be installed on each outside corner of the tower at each level.

19. On levels at approximately nine-tenths, seven-tenths, one-half, three-tenths, and one-tenth of the over-all height of the tower, at least one 100- or 111-watt lamp (#100 A21/TS or # 111 A21/TS, respectively) enclosed in an aviation red obstruction light globe shall be installed on each outside corner of the tower at each level.

20. All lighting shall be exhibited from sunset to sunrise unless otherwise specified.

21. All lights shall burn continuously or shall be controlled by a light sensitive device adjusted so that the lights will be turned on at a north sky light intensity level of about 35 foot candles and turned off at a north sky light intensity level of about 58 foot candles.

22. During construction of an antenna structure, for which obstruction lighting is required, at least two 100 - or 111-watt lamps (#100 A21/TS or # 111 A21/TS, respectively) enclosed in aviation red obstruction light globes, shall be installed at the uppermost point of the structure. In addition, as the height of the structure exceeds each level at which permanent obstruction lights will be required, two similar lights shall be installed at each such level. These temporary warning lights shall be displayed nightly from sunset to sunrise until the permanent obstruction lights have been installed and placed in operation, and shall be positioned so as to insure unobstructed visibility of at least one of the lights at any angle of approach. In lieu of the above temporary warning lights, the permanent obstruction lighting fixtures may be installed and operated at each required level as each such level is exceeded in height during construction.

THIS FORM IS A PART OF AND SHALL BE ATTACHED TO THE CURRENT INSTRUMENT OF AUTHORIZATION.

F.C.C. - Washington, D. C.